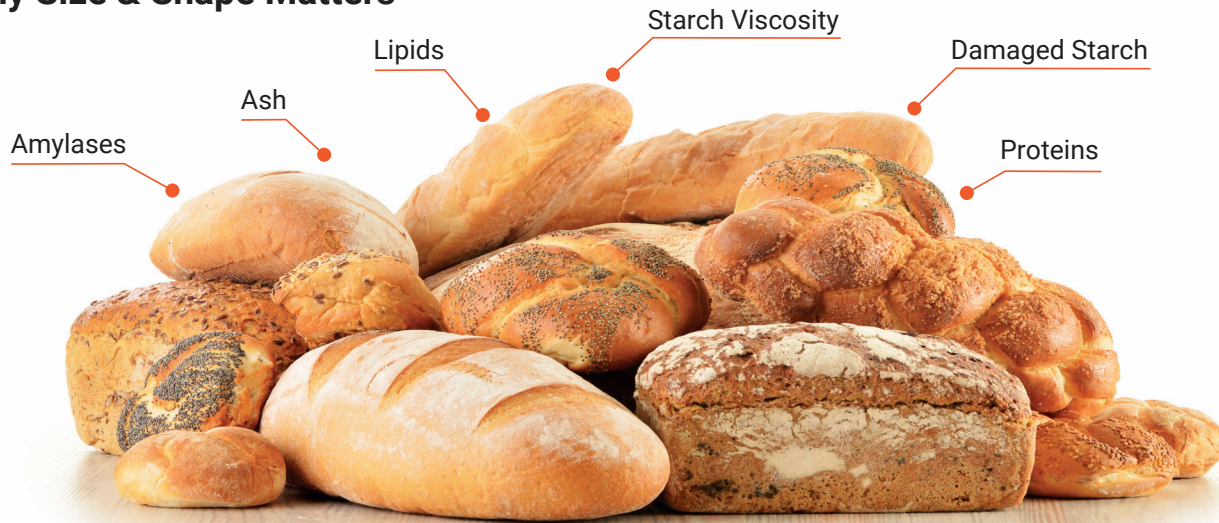


## Why Size & Shape Matters



### • Consistency & Quality Control:

Uniform products meet consumer expectations and ensure proper portioning and fair distribution.

• **Proper Baking & Texture:** Consistent size and shape ensure even baking. Uniform shapes also promote proper rising and stable structure formation.

### • Aesthetic & Presentation Appeal:

Well-shaped products are more appetizing and boost sales.

### • Packaging & Storage Efficiency:

Standardized shape and size fit better in packaging, reduce waste, and simplify storage and transport.

### • Customer Expectations &

**Satisfaction:** Consumers associate specific shapes with certain textures and eating experiences (e.g., round donuts, layered croissants). Not meeting those expectations can harm brand reputation.

### • Portion Control & Cost

**Management:** Consistent sizes help manage ingredient use and pricing, ensuring predictable portions.

## Key Flour Components Affecting Size & Shape

Key Flour Components	Contribution to Size & Shape	Mechanisms
Proteins	22%	Gluten provides tenacity, extensibility, and elasticity. Different products require different protein levels and quality.
Starch Viscosity	20%	Gelatinization occurs as starch absorbs water and swells during baking, contributing to product volume. Once gelatinized, starch interacts with proteins to set and stabilize the shape.
Damaged Starch	19%	Moderate levels improve fermentation and gas retention, resulting in increased product volume. Excess, however, overhydrates the dough, weakens structure, and causes misshapen or overly spread products.
Amylase (Enzyme Activity)	17%	Balanced enzyme activity ensures steady gas production. Excessive activity, however, can make the dough overly sticky and hard to shape.
Ash Content (Minerals)	11%	Moderate levels support well-defined shapes. Excess ash weakens the gluten network, leading to less precise results.
Lipids	9%	Native lipids enhance gluten lubrication, making rolling and shaping easier. Inadequate lipid content causes tearing during lamination, leading to asymmetry or uneven puffing during baking.

Consistent Impact Across Most Products

Impact Varies Significantly by Product Type

## How Flour Components impact Size & Shape of Different Products ?

Size & Shape	Starch (Native)	Starch Viscosity	Starch Damage	Proteins	Amylase (Enzymatic Activity)	Ash Content (Minerals)	Sugars	Lipids
Noodles		3	3	3	2	1		
Cracker		3	3	3		2		2
Pan Bread		3	3	3	3	2		1
Wafer		3	3	3	3	2		1
Wheat Tortilla		3	3	3	3	1		2
Baguette	2		3	3	3	2		2
Hamburger Bun		3	3	3	3	1		1
Pizza Crust		3	3	3	3	1		1
Sponge Cake		3	2	3	2	1		1
Biscuit		3		3	1	2	1	3
Croissant		3	2	3	2	1		1
Streamed Buns		3	3	3	3	2		

3: Strong Impact

2: Average Impact

1: Low Impact

Explore the Back to Flour Series  
Connecting Flour Components With Bakery Product Excellence.  
**- Click here -**

## KPM Equipment for Monitoring These Key Flour Components



SpectraStar



Alveograph



Mixolab 300



SDmatic



Rheo F4